

ALLERGY RESOURCES

Food Allergy Diary
A Symptom Log

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The Allergy Resources
Food Diary

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CHILLI PEPPER ALLERGY

Key Allergens

Chilli peppers are nightshades, part of the *Solanaceae* family of plants which include potato, tomato and aubergine (eggplant).

Cayenne and sweet peppers (bell peppers) are in the same genus of plants as chillis. Sweet peppers are the only vegetable in that genus that does not produce capsaicin, the chemical that causes the strong burning sensation associated with hot chillis.

Paprika is a spice made from chilli peppers, as a processed product the allergens associated with chillis may be reduced.

There are 3 allergens associated with an allergy to chillis. Cap a 1 is an osmotin, a [thaumatin-like protein](#) which is used in pathogen defense in the plant.

Cap a 2 is a [profilin protein](#) used in the plant for cell development. This is a panallergen, the most likely culprit for cross reactivity across other food groups.

In May 2021 a new allergen was added to the World Health Organization allergen database for chillis, this is Cap a 7, a [gibberellin regulated protein](#). Gibberellins are plant hormones associated with growth and development.

Food Intolerances



Peppers are a low FODMAP food. FODMAP stands for **F**ermentable **o**ligosaccharides, **d**isaccharides, **m**onosaccharides and **p**olyols. Foods high in FODMAPs can cause symptoms of food intolerance, affecting the gastro intestinal system and this can be mistaken for a true IgE food allergy.

Peppers are one of the few vegetables to contain a moderate amount of lectins, another cause of food intolerance. Cooking foods with lectins makes them more digestible and can reduce the symptoms of food intolerance.

Pickled peppers may contain high amounts of [sulphites](#), fresh peppers are safe to eat for those with a sulphite intolerance. These are inorganic salts used in preservations and have the potential to cause symptoms of food intolerance to those sensitive to sulphites.

Sweet pepper, chilli pepper and paprika are all foods high in salicylates, so has the potential to cause gastrointestinal food intolerance symptoms in people who are sensitive to salicylates.

Associated Syndromes

Allergy to chilli is sometimes linked to [Celery-Mugwort-Spice Syndrome](#) as the sensitising allergen is a profilin protein called Art v 4, these proteins are also sometimes also called Bet v 2 proteins.

There is also a link between chilli and [Latex Food Syndrome](#). The plant involved in latex allergy *Hevea brasiliensis*, the rubber tree plant, has an allergen called Hev b 8 which is a profilin protein. Those very sensitised to latex may have a contact allergic reaction from other foods or plants containing profilin proteins, there is less evidence of

this than sensitisation to other latex linked proteins like hevein and chitinases.

Cross Reactivity

Other plants which contain thaumatin like proteins are kiwi, apple, banana, cherry and peach. If your allergy is linked to this protein then you may have allergic reactions to these fruits.

Other foods containing profilin allergens are celery, peanut, soyabeans, lychee, walnut, lupin, almonds, mustard, hazelnut, kiwi, pineapple, chilli, melon, orange, strawberry, apple, banana, aubergine (eggplant), peach, pear, tomato, dates, cherry, carrot, barley and wheat. Allergic reactions to some of these foods may be considered a marker of profilin hypersensitivity.

Gibberellin regulated proteins are also found in oranges, cherry, apricots, peach and pomegranate.